

Claims

1. Disc brake (10), comprising
 - two brake shoes (16, 18), which for generating a
5 clamping force (B, B') are pressable against both
sides of a brake disc (20);
 - a conversion device (42), which is connectable to a
motor (30) and which converts a driving motion of the
motor (30) into an actuating motion for actuating at
10 least one of the brake shoes (16, 18); and
 - a support device (62) for taking up a reaction
force (C), which upon generation of the clamping force
(B, B') is introduced into the conversion device (42),
characterized in
15 that between the conversion device (42) and the
support device (62) at least one force sensor is
disposed for measuring at least a fraction of the
reaction force (C).
- 20 2. Disc brake according to claim 1, characterized in that
the at least one force sensor (80) has a planar form
of construction.
3. Disc brake according to claim 1 or 2, characterized in
25 that the at least one force sensor (80) is a
piezoelectric sensor.
4. Disc brake according to one of claims 1 to 3,
characterized in that the at least one force
30 sensor (80) has a piezoresistive layer (90) applied
onto a planar substrate (92).

5. Disc brake according to one of claims 1 to 4, characterized in that the disc brake (10) comprises two or more force sensors (80, 80', 80'', 80'''), which are disposed at a distance from one another in a plane at right angles to a longitudinal axis (A) of the disc brake (10).
6. Disc brake according to one of claims 1 to 5, characterized in that the disc brake (10) comprises four or more force sensors (80, 80', 80'', 80'''), wherein each two adjacent force sensors (80, 80', 80'', 80''') have an angular distance in the order of magnitude of 90° or less in relation to the longitudinal axis (A) of the disc brake (10).
7. Disc brake according to one of claims 1 to 6, characterized in that the support device (62) is coupled rigidly to a housing (60) of the disc brake (10).
8. Disc brake according to claim 7, characterized in that the support device comprises a step (62) formed in the housing (60) of the disc brake (10).
9. Disc brake according to claim 8, characterized in that the at least one force sensor (80) is applied onto the step (62) or integrated at least partially into the step (62).
10. Disc brake according to one of claims 1 to 8, characterized in that between the conversion device (42) and the support device (62) a carrier (84)

is disposed for receiving the at least one force sensor (80).

11. Disc brake according to one of claims 1 to 8,
5 characterized in that between the conversion device (42) and the support device (62) a bearing (64) is disposed and the at least one force sensor (80) is fastened in or on a component (76) of the bearing (64).
- 10 12. Disc brake according to one of claims 1 to 11, characterized in that the conversion device (42) converts a rotary driving motion of the motor (30) into a translatory actuating motion for actuating at
15 least one of the brake shoes (16, 18).
13. Disc brake according to claim 12, characterized in that the support device (62) interacts with a component (46) of the conversion device (42), which
20 component is settable in rotational motion.
14. Disc brake according to claim 12 or 13, characterized in that the conversion device (42) comprises a nut/spindle arrangement (44, 46, 50).
- 25 15. Disc brake according to claim 14, characterized in that the spindle (46) is settable in rotational motion and supported relative to the reaction force (C) against the step (60).
- 30 16. Vehicle brake system having a disc brake (10) according to one of claims 1 to 16.